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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/656,742	09/07/2000	YURIY REZNIKOV	KSU-188	1368

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EXAMINER	
TON, MINH TOAN T	
ART UNIT	**PAPER NUMBER**
2871	

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/656,742	REZNIKOV ET AL.
	Examiner	Art Unit
	Toan Ton	2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-12,14-16 and 18-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-2,4-12,14-16,18-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. Claims 1-2, 4-12, 14-16, 18-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gibbons et al (US 5032009, IDS) in view of Gibbons et al (US 6407789).

Gibbons ('009) discloses a liquid crystal display device and method of making thereof comprising all (as recited in independent claims) except for the irradiating light is elliptically polarized or partially polarized.

Gibbons ('009) discloses a liquid crystal layer filled with pure liquid crystals and then irradiated to be aligned (the second case, see Applicant's remarks filed 02/04/04 on page 11), wherein the liquid crystal layer inherently comprises a thickness.

Gibbons ('789) discloses that there exists several problems/disadvantages when using linearly polarized light, as in Gibbons ('009). Gibbons ('789) solves the problems/disadvantages through the use of partially polarized light, wherein the use of partially polarized light yields several advantages such as an increase in throughput and more effective use of optical radiation, easier to produce from coherent sources considering the range of ray angles and dimensions that the sources cover (col. 3, lines 41-47). Therefore, it would have been obvious to one of ordinary skill in the art to employ the irradiating light being partially polarized light for achieving advantages such as an increase in throughput and more effective use of optical radiation, easier to produce from coherent sources considering the range of ray angles and dimensions that the sources cover.

Gibbons ('009) discloses an alignment layer comprising anisotropically absorbing molecules having liquid crystal compounds.

Gibbons ('009) discloses exposing the anisotropically absorbing molecules to polarized light of a wavelength or wavelengths within the absorption band of the anisotropically absorbing molecules.

Gibbons ('009) discloses the molecules exposed by polarized light through at least one mask having a pattern, wherein the mask is commonly removed after exposure.

Gibbons ('009) discloses that his invention employs *conventional* liquid crystal display configuration (see Figure 1), wherein the conventional configuration comprises a pair of substrates, a liquid crystal medium sandwiched between the substrates, each substrate comprises an electrode formed thereon, an alignment layer formed at least on one of the substrates.

Depositing methods such as spin coating or dip coating are common and known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to employ depositing methods such as spin coating or dip coating, as they are common and known methods in the art.

The recited thickness' range for the alignment layer is at least overlapped the known and common range in the art for yielding advantages such as achieving desirable tilting directions. Therefore, it would have been obvious to one of ordinary skill in the art to employ a thickness range that at least overlaps the known and common range in the art for yielding advantages such as achieving desirable tilting directions

The recited anchoring-surface-energy range is at least overlapped the common range (1 erg/cm^2 to 10-3 erg/cm^2) for yielding advantages such as achieving desirable alignment directions. Therefore, it would have been obvious to one of ordinary skill in the art to employ an

anchoring-surface-energy range that at least overlaps the known and common range in the art for yielding advantages such as achieving desirable alignment directions.

Response to Arguments

2. Applicant's arguments filed 02/04/04 have been fully considered but they are not persuasive.

Applicant's arguments are as follows:

(1) Only the film of liquid crystals is exposed to the irradiating light, whereas the entire cell of liquid crystal is exposed to the irradiating light.

(2) Dyes or dyes polymer films are not used for the liquid crystal alignment, which is done in the third case of Gibbons.

Examiner's responses to Applicant's arguments are as follows:

(1) It is noted that the features upon which applicant relies (i.e., *only* the film of liquid crystals is exposed to the irradiating light) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

(2) Gibbons ('009) discloses a liquid crystal layer filled with pure liquid crystals and then irradiated to be aligned (the second case, see Applicant's remarks filed 02/04/04 on page 11), wherein the liquid crystal layer inherently comprises a thickness.

Contact Information

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan Ton whose telephone number is (571) 272-2303.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

February 27, 2004

PRIMARY EXAMINER

TOAN TON
PRIMARY EXAMINER